

Application No. 10/772,102

AMENDMENTS TO THE SPECIFICATIONIn the Specification

Please substitute the following amended paragraph(s) and/or section(s) (deleted matter is shown by strikethrough and added matter is shown by underlining):

Page 10, line 8.

A number of suitable solid, non-rare earth metal/metalloid precursor compounds can be delivered as an aerosol from solution. For example, zinc chloride (ZnCl_2) and zinc nitrate ($\text{Zn}(\text{NO}_3)_2$) are soluble in water and some organic solvents, such as isopropyl alcohol. Aluminum nitrate ($\text{Al}(\text{NO}_3)_3$) is soluble in water. Barium chloride (BaCl_2) and barium nitrate ($\text{Ba}(\text{NO}_3)_2$) are soluble in water. Magnesium nitrate ($\text{Mg}(\text{NO}_3)_2$) is somewhat soluble in water and is freely soluble in alcohol, and magnesium chloride (MgCl_2) is somewhat soluble in water and alcohols. Additionally, the aerosol solution can comprise ammonium ions.

Page 22, line 2.

As noted above, metal/metalloid oxide particles can be converted to the corresponding metal/ metalloid sulfides by heating the oxide in a sulfurizing atmosphere formed by a H_2S gas atmosphere or a CS_2 vapor atmosphere. The metal/metalloid oxides can be heated gently to form the sulfide. Since the sulfides are extremely reactive, the heating can be very gentle, generally less than about 500°C , preferably less than about 400 ~~[[500]]~~ $^\circ\text{C}$ and even more preferably less than about 300°C . Suitable concentrations of sulfurizing agent and reaction times can be evaluated empirically by examining the x-ray diffractograms of the resulting materials or by performing an elemental analysis.